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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/594,998

09/29/2006

Tatsuya Hidano

427-114

6602

23117 7590 08/02/2010  
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EXAMINER

MCKANE, ELIZABETH L

ART UNIT

PAPER NUMBER

1797

MAIL DATE

DELIVERY MODE

08/02/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,998	<b>Applicant(s)</b> HIDANO ET AL.	
	<b>Examiner</b> ELIZABETH L. MCKANE	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 May 2010.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5,8 and 12 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 12 is/are allowed.
- 6) ☒ Claim(s) 1,3-5,8 and 13 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Guliants (EP 1078685).

Guliants teaches a TSA purification unit which includes a column packed with a Na-MOR zeolite having a Si/Al ratio of 5.0. See para [0031], [0032]. The Na-MOR is ion exchanged with Li, which will change the pore diameter. The intended use of the purification unit for air separation does not structurally distinguish the apparatus from the unit of Guliants.

3. Claims 3, 4, 8, and 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Moreau et al. (FR 2834915).

Moreau et al. teaches an air purification unit for a TSA system (page 2, lines 1-3) including a column packed with a zeolite with a MFI structure (Cu-exchanged ZSM-5 zeolite). See page 5, lines 4-5. The column includes sequential layers of activated alumina, an NaX zeolite, and the MFI zeolite. See page 9, lines 20-22. It is noted that Moreau et al. specifically teaches use of the MFI zeolites for adsorption of unsaturated hydrocarbons and even saturated hydrocarbons (such as propane). See col.5, lines 9-

16. Moreau et al. further discloses that the Si/Al ratio is greater than *or equal to 1* (page 5, lines 22-23).

#### ***Allowable Subject Matter***

4. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

5. Claim 12 is allowed.

#### ***Response to Arguments***

6. Applicant's arguments filed 3 May 2010 have been fully considered but they are not persuasive.

7. With respect to Moreau et al., Applicant argues that Moreau et al. discloses neither a specific example of adsorption of propane at a ppb level or adjustment of the pore diameter to adsorb propane (see page 6, Response). In response, the Examiner notes that the instant claims require only an adsorbent capable of adsorbing propane having the claimed zeolite structure and Si/Al ratio. The zeolite of Moreau et al. has the claimed structure and Si/Al ratio and Applicant has failed to show that the adsorbent of Moreau et al. would be incapable of adsorbing propane.

8. As to the claimed Si/Al ratio, Applicant submits that Moreau et al. does not disclose or imply the claimed ratio of no more than 20. However, a teaching of "equal to 1" is certainly no more than 20 and thus, Moreau et al. meets the instant claim limitation.

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9. With respect to Guliants, Applicant argues that the reference teaches a PSA process. However, Guliants discloses that the adsorbent may also be used in a TSA process. See page 5, line 38; page 6, lines 1-2. Furthermore, Applicant has failed to show that the exchanged Na-MOR zeolites of Guliants is incapable of adsorbing propane.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ELIZABETH L. MCKANE whose telephone number is

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(571)272-1275. The examiner can normally be reached on Mon-Fri; 5:30 a.m. - 2:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Elizabeth L McKane/  
Primary Examiner, Art Unit 1797

elm  
29 July 2010